

Patent

In the most recent Office Action, the rejections of claims 1-12, 14 and 15 as being unpatentable over combinations of the Kramer and Skiba patents were maintained. For the reasons presented in Applicant's previous response, it is respectfully submitted that these two references do not suggest the claimed subject matter to a person of ordinary skill in the art, whether considered individually or in combination. In refuting these arguments, the most recent Office Action relies upon an overly broad definition of the term "file system." Specifically, at page 8, paragraph 10.a., the Office Action states "the Examiner is interpreting [the term 'file systems'] to

be as the 'directories'; and the 'components' of these file systems to be the 'files' of the directories." It is respectfully submitted that there is no support for such an interpretation, and therefore it cannot form a proper basis for maintaining the rejections.

A copy of the relevant page from the Microsoft Computer Dictionary, 5th edition, is attached to this response. As indicated therein, the term "file system" is defined as "the overall structure in which files are named, stored, and organized. A file system consists of files, directories, or folders, *and* the information needed to locate and access these items." (emphasis added). Thus, it can be seen that a file system is not equivalent to a directory, per se, as alleged in the Office Action. Rather, the directory is merely one component of the file system. In addition to this component, the file system also includes the software module that organizes and manipulates the structure and location of files on the physical storage media, e.g., disk drives. Typically, this module is located between the actual data stored on the drives and user applications, to perform operations such as reading, writing and storing the data.

The Court of Appeals for the Federal Circuit recently confirmed that claims are to be construed from the vantage point of a person skilled in the relevant art. *Vanderlande Industries Nederland B.V. vs. ITC*, 70 USPQ 2d 1696, 1704 (Fed. Cir. 2004). The Court went on to indicate that technical dictionaries are the types of evidence that demonstrate the special meanings to apply to terms of art that are used in the claims. As illustrated by the accompanying definition from the Microsoft Computer Dictionary, a person of ordinary skill in the art would not consider a directory to be the same as a file system. Since the entire ground of rejection is

based upon such an erroneous interpretation, it is respectfully submitted that the rejection is unsupportable, and therefore cannot stand.

For example, one of the points of distinction, which was presented in Applicant's prior response, is that the Kramer patent does not disclose the mounting of two physical file systems in a single directory, as recited in claim 1. Rather, it only discloses the merger of two or more hierarchies of files and directories within a *single* file system. Since directories may be components of file system data entities, but are not themselves file systems, Kramer's teaching relating to the merging of two or more hierarchies of files and directories does not, in any way, pertain to the mounting of plural file systems in a directory.

Similarly, Applicant previously pointed out that the Skiba patent also pertains to actions performed on a single file system. In responding to this point, paragraph 10.c. of the most recent Office Action refers to the Skiba patent at column 2, lines 48-54, which relates to the creation of an expanded volume. It is respectfully submitted, however, that this disclosure does not suggest the features of the claimed invention.

First, Applicant would like to point out that the creation of an expanded volume, or a subfolder that points to a folder on a different volume, is not equivalent to creating a mirrored copy of a file or folder. For instance, consider the example in which a folder X contains a subfolder A. The subfolder A can be in a local volume and another subfolder B can be created on a volume of a remote machine on the network. As a result, the folder X has two subfolders, A in the local volume and B in the remote volume. When an application writes data to subfolder A, the data is stored on the local volume. When the application writes data to the subfolder B, the

data is stored on the remote volume. The folder B is not a mirrored copy of the folder A.

Turning now to the claimed invention, when the subfolder A is managed by the Mirror File System (MFS) module, it has two application interface data structures. One of these structures is associated with the local volume, and the other is associated with the remote volume. When an application writes data to subfolder A, the MFS module uses these two application interface data structures to first write the data to the local volume, and then write the same data to the remote volume. Each write operation is carried out by sending the data to an underlying file system module, i.e., one of the plural mounted physical file systems, which then writes the data to a storage volume, and subsequently controls and manages it.

In the context of the Skiba patent's teaching pertaining to "creating an expanded volume", in order to mirror data onto two different volumes, the *application* must write the data to folder A and then to folder B. In contrast, in the claimed invention, the application only has to conduct one write operation, e.g., to folder A, and the MFS module will automatically write the data to two different volumes. In other words, there is no need to separately create folder B.

Thus, it can be seen that Skiba's disclosure of a subfolder (subfolder B on the remote volume) that points to a folder on a different volume (folder X on the local volume) is not equivalent to the application interface data structure of claim 1, having *two* associated pointers that respectively point to corresponding structures in each of two physical file systems. In this regard, it is to be noted that different volumes do not correlate to different physical file systems, as suggested in the Office Action.

Rather, a single file system can have multiple volumes associated with it. This is the premise upon which the Skiba disclosure is based.


In summary, each of the Kramer and Skiba patents is directed to operations that are performed within the context of a *single* file system. Whether considered individually or in combination, they do not teach the concept of mounting two different physical file systems in a single directory, and utilizing a virtual file system data structure having elements that point to corresponding components in each of the two physical file systems. Kramer's teaching of merging two or more hierarchies of files and directories does not suggest such a concept, because a directory is not the same as, nor equivalent to, a file system.

For the foregoing reasons it is respectfully submitted that all pending claims are patentably distinct from the cited references. Reconsideration and withdrawal of the rejections of the claims are respectfully requested.

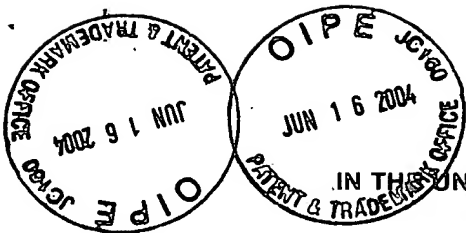
Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: June 16, 2004

By: 
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Patent
Attorney Docket No. 032885-001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EXPEDITED PROCEDURE REQUESTED
UNDER 37 CFR 1.116

In re Patent Application of

John Wong

Application No.: 09/810,246

Filing Date: March 19, 2001

Title: MIRROR FILE SYSTEM

Group Art Unit: 2171

Examiner:

Confirmation No.: 8377

AMENDMENT/REPLY TRANSMITTAL LETTER

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JUN 18 2004

Technology Center 2100

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

☐ A Petition for Extension of Time is also enclosed.

☐ Terminal Disclaimer(s) and the ☐ \$55.00 (2814) ☐ \$110.00 (1814) fee per
Disclaimer due under 37 C.F.R. § 1.20(d) are also enclosed.

☐ Also enclosed is/are _____

☐ Small entity status is hereby claimed.

☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the
☐ \$385.00 (2801) ☐ \$770.00 (1801) fee due under 37 C.F.R. § 1.17(e).

☐ Applicant(s) requests that any previously unentered after final amendments not be entered.
Continued examination is requested based on the enclosed documents identified above.

☐ Applicant(s) previously submitted _____

on _____
for which continued examination is requested.

☐ Applicant(s) requests suspension of action by the Office until at least _____,
which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R.
§ 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.

☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also
enclosed.

- ☒ No additional claim fee is required.
- ☐ An additional claim fee is required, and is calculated as shown below.

AMENDED CLAIMS					
	No. of Claims	Highest No. of Claims Previously Paid For	Extra Claims	Rate	Additional Fee
Total Claims	16	MINUS 20 =	0	x \$18.00 (1202) =	\$ 0.00
Independent Claims	3	MINUS 3 =	0	x \$86.00 (1201) =	\$ 0.00
If Amendment adds multiple dependent claims, add \$290.00 (1203)					
Total Claim Amendment Fee					\$ 0.00
<input type="checkbox"/> Small Entity Status claimed - subtract 50% of Total Claim Amendment Fee					\$ 0.00
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					\$ 0.00

- ☐ A check in the amount of _____ is enclosed for the fee due.
- ☐ Charge _____ to Deposit Account No. 02-4800.
- ☐ Charge _____ to credit card. Form PTO-2038 is attached.

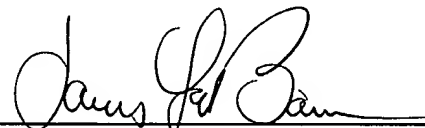
The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

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